203-R-699 GRANULAR TIRE SHREDS

(Revised 05-20-23)

The Standard Specifications are revised as follows:

SECTION 203, AFTER LINE 335, INSERT AS FOLLOWS:

203.08.3 Blank

203.08.4 Tire Shreds

The Department's Geotechnical Services Division and Environmental Services Division shall be contacted prior to use of tire shreds.

Tires shall be supplied by an IDEM approved tire processor. Tire shreds are defined as tires that have been chipped or shredded and shall be in accordance with ASTM D6270 and the following:

a) Every piece shall have at least one sidewall severed from the face of the tires. The largest piece shall be 6 in. or less in each dimension.

b) A minimum of 80% of the material by weight shall pass a 4 in. screen.

Tire shreds shall be substantially free of loose metal fragments. Exposed metal along the cut faces of the tire shreds will not be considered loose metal fragments. Attached residual metal protrusions such as beads and belts extending beyond the cut faces of tires shall be kept to a minimum.

A type C certification in accordance with 916 shall be provided for the tire shreds.

SECTION 203, AFTER LINE 1152, INSERT AS FOLLOWS:

203.23.2 Granular Tire Shreds Embankment

Granular tire shreds, GTS, is defined as a mixture of tire shreds and sand. GTS shall be constructed from a mixture of 60% by volume of tire shreds and 40% by volume of sand in accordance with 903.02. Sand shall be 100% passing the No. 10 sieve. ACBF, GBF, and SF shall not be used. GTS shall be handled and transported in order to minimize segregation.

When specified as lightweight fill material, GTS mix shall be encased upon delivery to the project unless stockpiled at an approved location and in an approved manner.

GTS mix shall not be placed in the following cases:

a) Below the seasonal high water table.

b) Within 150 ft horizontally of a well, spring, or other ground water source of potable water.

GTS mix may be stored within the right-of-way of the project with the approval of the Engineer. GTS mix shall be incorporated into the fill within 14 calendar days of the

inception of the stockpile. The stockpile volume shall not exceed 500 cu yds. GTS mix storage at the worksite shall be in accordance with the Indiana Fire Code, 675 IAC 22-2.5-27, and the Solid Waste Land Disposal Facilities regulation, 329 IAC 10. Storage shall be consistent with the definition of storage in accordance with 329 IAC 10-2-181.

GTS mix shall be used as fill up to a maximum 10 ft high embankment. The thickness of encasement, subgrade, and pavement are not included in the 10 ft maximum. Fill heights above 10 ft shall be separated by 2 ft of sand in a maximum of 10 ft increments. When the structural integrity of the embankment is compromised or if the GTS mix becomes exposed, the embankment shall be repaired as directed.

When the GTS fill work is inactive for two weeks or more, all GTS mix on the project shall be covered with 12 in. of sand. When work recommences, the 12 in. layer of sand shall be removed.

The length of roadway excavation shall not exceed 50 ft at any given time during construction, unless otherwise directed. Heavy construction equipment shall not be operated adjacent to the GTS mix area until the pavement has been constructed.

The grade shall be prepared in accordance with the appropriate portions of 203, or as directed. The existing slope shall be benched and a geotextile shall be placed on the slope. Type 2B geotextile in accordance with 918.02(a) shall be embedded at the top of the slope and shall be laid transversely, machine direction perpendicular to center line, with an overlap between rolls of 18 in. End-to-end splices in the geotextile will not be allowed. The transverse splices of the geotextile shall be pinned with hog ring clips.

Two 12 in. thick lifts of GTS mix shall be placed and wrapped at the ends with geotextile. The wrapped length of geotextile shall be 3 ft from the toe. A GTS mix lift shall be placed across the full width of the roadway cross section. Compaction of GTS mix shall be performed in accordance with 409.03(d) with a smooth static or vibratory compactor weighing a minimum of 6 t. The deflection in these 12 in. lifts shall not be more than 1/2 in. Subsequent lifts shall be wrapped with geotextile after constructing the two 12 in. lifts, as shown on the plans. The top of the GTS mix shall have 12 in. of soil constructed in accordance with 203.23. The side slopes shall be encased with the 2 ft cohesive encasement in accordance with 203.09 and 205. The cohesive encasement material shall be placed and compacted at the same time as the GTS.

The subgrade over GTS mix embankment shall be Type IV Subgrade in accordance with 207.

SECTION 203, AFTER LINE 1428, INSERT AS FOLLOWS:

(l) Measurement of Granular Tire Shreds Mix

Sand for the GTS mix and tire shreds will be measured by the ton in accordance with 203.27(d). Cohesive encasement material will be measured by the cubic yard in accordance with 203.27(e). Geotextile will be measured in accordance with 616.12. Subgrade treatment Type IV will be measured in accordance with 207.05.

SECTION 203, AFTER LINE 1533, INSERT AS FOLLOWS:

The accepted quantities of tire shreds and sand encasement material will be paid for at the contract unit price per ton. Cohesive encasement material will be paid for at the contract unit price per cubic yard. Geotextile will be paid for in accordance with 616.13. Subgrade treatment Type IV will be paid for in accordance with 207.06.

SECTION 203, AFTER LINE 1540, INSERT AS FOLLOWS:

Cohesive Encasement Material.....CYS

SECTION 203, AFTER LINE 1551, INSERT AS FOLLOWS:

Tire Shreds.....TON

SECTION 203, AFTER LINE 1553, INSERT AS FOLLOWS:

All costs associated with blending materials into the GTS mix shall be included in the cost of the pay items in this section. Sand placement and removal during inactivity due to Contractor delays, shall be at no additional cost to the Department.
